

IN THE CLAIMS:

1.-10. (cancelled):

11.(currently amended): A process for reducing the organic sulfur content of a full boiling range cracked naphtha stream containing olefins, diolefins, mercaptans, thiophenes, and other organic sulfur compounds, comprising the steps of:

(a) separating the full boiling range cracked naphtha stream into three fractions comprising a light cracked naphtha fraction boiling in the range of C<sub>5</sub> to about 150°F, an intermediate cracked naphtha fraction boiling in the range of about 150 to about 250°F and a heavy cracked naphtha boiling in the range of about 250 to 450°F;

(b) subjecting the ~~heaving~~ heavy cracked naphtha to hydrodesulfurization in a first hydrodesulfurization reactor containing a hydrodesulfurization catalyst;

(c) combining the effluent from the first hydrodesulfurization reactor with the intermediate cracked naphtha and subjecting the combined stream to hydrodesulfurization in a second hydrodesulfurization reactor and

(d) subjecting said light cracked naphtha to a wet caustic wash after said fractionation wherein substantially all of the mercaptans contained therein are converted to sulfides.

12.(new): The process according to claim 11 wherein said hydrodesulfurization catalyst comprises Group VIII metals.

13.(new): The process according to claim 12 wherein said hydrodesulfurization catalyst comprises cobalt, nickel, palladium, alone or in combination with other metals.

14.(new): The process according to claim 12 wherein said hydrodesulfurization catalyst comprises components from Group V, VIB, VIII.

15.(new): The process according to claim 14 wherein said hydrodesulfurization catalyst is cobalt-molybdenum, nickel-molybdenum or nickel-tungsten.

16.(new): The process according to claim 15 wherein said hydrodesulfurization catalyst is supported on alumina, silica-alumina, or titania-zirconia.